Applicant : Soren Eriksson
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REMARKS

Claims 1-20 are pending in the present application. Reconsideration is respectfully requested for the following reasons.

The Office Action has indicated that the Information Disclosure Statement filed September 5, 2003 lists several U.S. patent applications that are not prior art references and have therefore been crossed off of the IDS. The applications cited on the Information Disclosure Statement are not considered to be prior art references, but are applications filed by the Applicant of the present application that include a similar specification. Applicant was bringing these applications to the Examiner's attention in case the Examiner wanted to review the prosecution history of these co-pending applications.

Claims 1-7 have been objected to for including phrases beginning with the word "wherein" and for including phrases that do not begin with the word "wherein." Applicant is unsure why such claim language makes the claims informal and submits that the claims are proper and definite. Claims 1-7 all define a system and the interactions between elements of the system. If the Examiner has any questions, the Examiner is requested to call the undersigned at the number below.

Claims 1-20 have been rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,991,669 to Dominke et al. "Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, *arranged as in the claim.*" *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 221 USPQ 481, 485 (Fed. Cir. 1984) (emphasis added). In proceedings before the Patent and Trademark Office, the Examiner bears the burden of establishing a prima facie case of anticipation based upon the prior art. *In re Sun*, 31 U.S.P.Q.2d 1451, 1453 (Fed. Cir. 1993) (unpublished). Applicant respectfully asserts that the Examiner has not yet met his burden of establishing a prima facie case of anticipation with respect to the rejected claims.

Claim 1 defines a vehicle control configuration comprising a hierarchical control system including an upper hierarchical level and a lower hierarchical level. The upper hierarchical level communicates to the lower hierarchical level by sending downward signals. The lower hierarchical level communicates to the upper hierarchical level by sending upward

signals. The downward signals include at least one request for vehicle modification. The upward signals include availabilities of the lower hierarchical level independent of the request for vehicle modification. The lower hierarchical level is a suspension coordinator subsystem.

The prior art of record does not disclose or suggest the above noted features of claim 1. Specifically, the prior art of record does not disclose or suggest a hierarchical control system including an upper hierarchical level and a lower hierarchical level, with the lower hierarchical level communicating to the upper hierarchical level by sending upward signals, wherein the upward signals include availabilities of the lower hierarchical level independent of a request for vehicle modification and the lower hierarchical level is a suspension coordinator subsystem. According to the Office Action, the Dominke et al. '669 patent discloses a hierarchical control system where upward signals include availabilities of a lower hierarchical level. While claim 1 as originally filed did not state that the lower hierarchical level is a suspension coordinator subsystem, the Examiner has rejected claim 8 by stating that the Dominke et al. '669 patent discloses a suspension coordinator subsystem that sends upward signals including availabilities of the lower hierarchical levels and that such a disclosure is described in lines 14-33 of column 4 of the Dominke et al. '669 patent. According to lines 14-33 of column 4 of the Dominke et al. '669 patent, a coordinator asks the sources of the resource as to an available potential. However, the suspension as identified in Fig. 3 of the Dominke et al. '669 patent is not a source of a resource. Therefore, the "coordinator" as disclosed in the Dominke et al. '669 patent does not receive an upward signal including availabilities of a "suspension." Therefore, claim 1 is in condition for allowance.

Claim 2 depends from claim 1, and since claim 1 defines unobvious patentable subject matter as discussed above, claim 2 defines patentable subject matter. Furthermore, the Dominke et al. '669 patent does not disclose or suggest upward signals that include availabilities of a mode of operation of a suspension coordinator subsystem. As discussed above, the Dominke et al. '669 patent does not include a suspension coordinator subsystem that communicates availabilities. Accordingly, the Dominke et al. '669 patent does not disclose an upward signal that includes availabilities of a mode of operation of a suspension coordinator subsystem. Accordingly, claim 2 is in condition for allowance.

Claim 3 defines a vehicle control configuration comprising a hierarchical control system including an upper hierarchical level and a lower hierarchical level. The upper hierarchical level communicates to the lower hierarchical level by sending downward signals. The lower hierarchical level communicates to the upper hierarchical level by sending upward signals. The downward signals include at least one request for vehicle modification. The upward signals include availabilities of the lower hierarchical level independent of the request for vehicle modification. The upward signals include availabilities of mode of operation of the lower hierarchical level. The downward signals include a request for mode of operation of the lower hierarchical level. The upward signals include a confirmation of the mode of operation.

The prior art of record does not disclose or suggest the above noted features of claim 3. Specifically, the Dominke et al. '669 patent does not disclose or suggest upward signals that include a confirmation of a mode of operation. According to the Office Action, the Dominke et al. '669 patent discloses this feature in lines 14-33 of column 4. According to this portion of the Dominke et al. '669 patent, a coordinator either asks a component for its resource requirement or receives the resource requirement from the component. Furthermore, the coordinator either asks a source of a resource as to its available potential or the source of the resource sends its available potential to the coordinator. However, whether receiving a resource requirement from a component or an available potential from a source of a resource, neither of these transmittals includes a confirmation of a mode of operation. Accordingly, the Dominke et al. '669 patent does not disclose or suggest in the portion cited in the Office Action both a downward signal that includes a request for a mode of operation and an upward signal that includes a confirmation of the mode of operation. Accordingly, claim 3 is in condition for allowance.

Claim 4 defines a vehicle control configuration comprising a hierarchical control system including an upper hierarchical level and a lower hierarchical level. The upper hierarchical level communicates to the lower hierarchical level by sending downward signals. The lower hierarchical level communicates to the upper hierarchical level by sending upward signals. The downward signals include at least one request for vehicle modification. The upward signals include availabilities of the lower hierarchical level independent of the request

for vehicle modification. The downward signals include a request for enablement. The upward signals include a confirmation of enablement.

The prior art of record does not disclose or suggest the above noted features of claim 4. Specifically, the Dominke et al. '669 patent does not disclose or suggest upward signals that include a confirmation of enablement. According to the Office Action, the Dominke et al. '669 patent discloses this feature in lines 14-33 of column 4. According to this portion of the Dominke et al. '669 patent, a coordinator either asks a component for its resource requirement or receives the resource requirement from the component. Furthermore, the coordinator either asks a source of a resource as to its available potential or the source of the resource sends its available potential to the coordinator. However, whether receiving a resource requirement from a component or an available potential from a source of a resource, neither of these transmittals includes a confirmation of enablement. Accordingly, the Dominke et al. '669 patent does not disclose or suggest in the portion cited in the Office Action both a downward signal that includes a request for enablement and an upward signal that includes a confirmation of enablement. Accordingly, claim 4 is in condition for allowance.

Claim 5 defines a vehicle control configuration comprising a hierarchical control system including an upper hierarchical level and a lower hierarchical level. The upper hierarchical level communicates to the lower hierarchical level by sending downward signals. The lower hierarchical level communicates to the upper hierarchical level by sending upward signals. The downward signals include at least one request for vehicle modification. The upward signals include availabilities of the lower hierarchical level independent of the request for vehicle modification. The downward signals include vehicle state measurements of the vehicle.

The prior art of record does not disclose or suggest the above noted features of claim 5. Specifically, the prior art of record does not disclose or suggest a hierarchical control system including an upper hierarchical level and a lower hierarchical level, the upper hierarchical level communicating with the lower hierarchical level by sending downward signals and the lower hierarchical level communicating with the upper hierarchical level by sending upward signals, wherein the downward signals include vehicle state measurements of the vehicle.

According to the Office Action, the Dominke et al. '669 patent includes an upper hierarchical level 100, lower hierarchical levels 106, 108, 120, 122 and 124, and "signals of vehicle measurements available to both levels (110, 112, 126, 128; fig. 1)." However, the Dominke et al. '669 patent does not disclose or suggest an upper hierarchical level communicating to a lower hierarchical level by sending downward signals that include vehicle state measurements of the vehicle. The master controller 100 in the Dominke et al. '669 patent does not send any signals including vehicle state measurements of the vehicle as set forth in the Office Action because information from elements 110, 112, 126 and 128 do not come from the controller 100. Accordingly, the Dominke et al. '669 patent does not disclose or suggest an upper hierarchical level that communicates vehicle state measurements as set forth in the Office Action. Accordingly, claim 5 is in condition for allowance.

Claim 6 defines a vehicle control configuration comprising a hierarchical control system including an upper hierarchical level and a lower hierarchical level. The upper hierarchical level communicates to the lower hierarchical level by sending downward signals. The lower hierarchical level communicates to the upper hierarchical level by sending upward signals. The downward signals include at least one request for vehicle modification. The upward signals include availabilities of the lower hierarchical level independent of the request for vehicle modification. The upward signals include vehicle state measurements of actuators controlled by the lower hierarchical level.

The prior art of record does not disclose or suggest the above noted features of claim 6. Specifically, the prior art of record does not disclose or suggest a hierarchical control system including an upper hierarchical level and a lower hierarchical level, the upper hierarchical level communicating with the lower hierarchical level by sending downward signals and the lower hierarchical level communicating with the upper hierarchical level by sending upward signals, wherein the upward signals include vehicle state measurements of actuators controlled by the lower hierarchical level. According to the Office Action, the Dominke et al. '669 patent includes an upper hierarchical level 100, lower hierarchical levels 106, 108, 120, 122 and 124, and "signals of vehicle measurements available to both levels (110, 112, 126, 128; fig. 1)." However, the Dominke et al. '669 patent does not disclose or suggest a lower

hierarchical level communicating to an upper hierarchical level by sending upward signals that include vehicle state measurements of the vehicle. The master controller 100 in the Dominke et al. '669 patent does not receive any signals including vehicle state measurements of actuators controlled by the lower hierarchical level as set forth in the Office Action because information from elements 110, 112, 126 and 128 do not come from the apparatuses 106, 108, 120, 122 or 124. Accordingly, the Dominke et al. '669 patent does not disclose or suggest a lower hierarchical level that communicates vehicle state measurements as set forth in the Office Action. Accordingly, claim 6 is in condition for allowance.

Claim 7 defines a vehicle control configuration comprising a hierarchical control system including an upper hierarchical level and a lower hierarchical level. The upper hierarchical level communicates to the lower hierarchical level by sending downward signals. The lower hierarchical level communicates to the upper hierarchical level by sending upward signals. The downward signals include at least one request for vehicle modification. The upward signals include availabilities of the lower hierarchical level independent of the request for vehicle modification. The upward signals include status of the lower hierarchical level independent of the current vehicle behavior.

The prior art of record does not disclose or suggest the above noted features of claim 7. Specifically, the Dominke et al. '669 patent does not disclose or suggest upward signals that include a status of the lower hierarchical level. According to the Office Action, the Dominke et al. '669 patent discloses this feature in lines 14-33 of column 4. According to this portion of the Dominke et al. '669 patent, a coordinator either asks a component for its resource requirement or receives the resource requirement from the component. Furthermore, the coordinator either asks a source of a resource as to its available potential or the source of the resource sends its available potential to the coordinator. However, whether receiving a resource requirement from a component or an available potential from a source of a resource, neither of these transmittals includes a status of the lower hierarchical level. Accordingly, the Dominke et al. '669 patent does not disclose or suggest in the portion cited in the Office Action an upward signal that includes a status of the lower hierarchical level. Accordingly, claim 7 is in condition for allowance.

In regard to claims 3, 4 and 7, it appears that the Office Action is stating that the communication of the available potential from a source of a resource to a coordinator as described in lines 14-33 of column 4 of the Dominke et al. '669 patent is a request for mode of operation, a confirmation of mode of operation, a request for enablement, a confirmation of enablement and a status. While Applicant submits that the available potential is not any of these elements, the transmittal of the available potential certainly cannot be all of these elements. Accordingly, Applicant requests in any future Office Action that the Examiner define how the available potential includes all of the elements of claims 3, 4 and 7 and how different portions of the available potential include the different elements of these claims.

Claim 8 defines a vehicle control system comprising a vehicle motion control subsystem having a control input and a control output. A suspension coordinator subsystem includes a subsystem input and a subsystem output. The vehicle motion control subsystem outputs downward signals out of the control output to the subsystem input of the suspension coordinator subsystem. The suspension coordinator subsystem outputs upward signals out of the subsystem output to the control input of the vehicle motion control subsystem. The downward signals include at least one request for vehicle modification. The upward signals include availabilities of the suspension coordinator subsystem independent of the request for vehicle modification.

The prior art of record does not disclose or suggest the above noted features of claim 8. Specifically, the prior art of record does not disclose or suggest a vehicle motion control subsystem which outputs downward signals out of the control output to the subsystem input of the suspension coordinator subsystem and a suspension coordinator subsystem which outputs upward signals out of the subsystem output to the control input of the vehicle motion control subsystem, wherein the downward signals include at least one request for vehicle modification and the upward signals include availabilities of the suspension coordinator subsystem independent of the request for vehicle modification. According to the Office Action, the Dominke et al. '669 patent discloses a suspension coordinator subsystem that sends upward signals including availabilities of the suspension coordinator subsystem and that such a disclosure is described in lines 14-33 of column 4 of the Dominke et al. '669 patent.

According to lines 4-33 of column 4 of the Dominke et al. '669 patent, a coordinator asks the sources of the resource as to an available potential. However, the suspension as identified in Fig. 3 of the Dominke et al. '669 patent is not a source of a resource. Therefore, the "coordinator" as disclosed in the Dominke et al. '669 patent does not receive an upward signal including availabilities of a "suspension." Therefore, claim 8 is in condition for allowance.

Claims 9-14 depend from claim 8, and since claim 8 defines unobvious patentable subject matter as discussed above, claims 9-14 define patentable subject matter. Furthermore, in regard to claim 9, the Dominke et al. '669 patent does not disclose or suggest upward signals that include availabilities of a mode of operation of a suspension coordinator subsystem. As discussed above, the Dominke et al. '669 patent does not include a suspension coordinator subsystem that communicates availabilities. Accordingly, the Dominke et al. '669 patent does not disclose an upward signal that includes availabilities of a mode of operation of a suspension coordinator subsystem. Accordingly, claim 9 is in condition for allowance.

In regard to claim 10, the prior art of record does not disclose or suggest upward signals that include a confirmation of a mode of operation. According to the Office Action, the Dominke et al. '669 patent discloses this feature in lines 14-33 of column 4. According to this portion of the Dominke et al. '669 patent, a coordinator either asks a component for its resource requirement or receives the resource requirement from the component. Furthermore, the coordinator either asks a source of a resource as to its available potential or the source of the resource sends its available potential to the coordinator. However, whether receiving a resource requirement from a component or an available potential from a source of a resource, neither of these transmittals includes a confirmation of a mode of operation. Accordingly, the Dominke et al. '669 patent does not disclose or suggest in the portion cited in the Office Action both a downward signal that includes a request for a mode of operation and an upward signal that includes a confirmation of the mode of operation. Furthermore, the "suspension" of the Dominke et al. '669 patent is not a source of a resource and therefore does not output a confirmation of a mode of operation. Accordingly, claim 10 is in condition for allowance.

In regard to claim 11, the prior art of record does not disclose or suggest downward signals that include a request for enablement and upward signals that include a confirmation of

enablement. According to the Office Action, the Dominke et al. '669 patent discloses this feature in lines 14-33 of column 4. According to this portion of the Dominke et al. '669 patent, a coordinator either asks a component for its resource requirement or receives the resource requirement from the component. Furthermore, the coordinator either asks a source of a resource as to its available potential or the source of the resource sends its available potential to the coordinator. However, whether receiving a resource requirement from a component or an available potential from a source of a resource, neither of these transmittals includes a confirmation of enablement. Accordingly, the Dominke et al. '669 patent does not disclose or suggest in the portion cited in the Office Action both a downward signal that includes a request for enablement and an upward signal that includes a confirmation of enablement. Furthermore, the "suspension" of the Dominke et al. '669 patent is not a source of a resource and therefore does not output a confirmation of enablement. Accordingly, claim 11 is in condition for allowance.

In regard to claim 12, the prior art of record does not disclose or suggest a vehicle motion control subsystem outputting downward signals that include vehicle state measurements of the vehicle. According to the Office Action, the Dominke et al. '669 patent includes "signals of vehicle measurements available to both levels (110, 112, 126, 128; figure 1)." However, the Dominke et al. '669 patent does not disclose or suggest a vehicle motion controller outputting downward signals to a suspension coordinator subsystem that include vehicle state measurements of the vehicle. The controller in Fig. 3 of the Dominke et al. '669 patent does not send any signals including vehicle state measurements of the vehicle as set forth in the Office Action because information from elements 110, 112, 126 and 128 do not come from the controller. Accordingly, the Dominke et al. '669 patent does not disclose or suggest downward signals that include vehicle state measurements of the vehicle as set forth in the Office Action. Accordingly, claim 12 is in condition for allowance.

In regard to claim 13, the prior art of record does not disclose or suggest upward signals include vehicle state measurements of actuators of the suspension coordinator subsystem. According to the Office Action, the Dominke et al. '669 patent includes "signals of vehicle measurements available to both levels (110, 112, 126, 128; figure 1)." However,

the Dominke et al. '669 patent does not disclose or suggest a suspension coordinator subsystem outputting upward signals to a vehicle motion controller that includes vehicle state measurements of actuators of the suspension coordinator subsystem. The controller in Fig. 3 of the Dominke et al. '669 patent does not receive any signals including vehicle state measurements as set forth in the Office Action because information from elements 110, 112, 126 and 128 do not come from the apparatuses 106, 108, 120, 122 or 124, much less include information regarding actuators of the "suspension." Accordingly, the Dominke et al. '669 patent does not disclose or suggest upward signals include vehicle state measurements of actuators of the suspension coordinator subsystem as set forth in the Office Action. Accordingly, claim 13 is in condition for allowance.

In regard to claim 14, the prior art of record does not disclose or suggest upward signals that include a status of actuators of a suspension coordinator subsystem. According to the Office Action, the Dominke et al. '669 patent discloses this feature in lines 14-33 of column 4. According to this portion of the Dominke et al. '669 patent, a coordinator either asks a component for its resource requirement or receives the resource requirement from the component. Furthermore, the coordinator either asks a source of a resource as to its available potential or the source of the resource sends its available potential to the coordinator. However, whether receiving a resource requirement from a component or an available potential from a source of a resource, neither of these transmittals includes a status of actuators of a suspension coordinator subsystem. Accordingly, the Dominke et al. '669 patent does not disclose or suggest in the portion cited in the Office Action upward signals that include a status of actuators of a suspension coordinator subsystem. Furthermore, the "suspension" of the Dominke et al. '669 patent is not a source of a resource and therefore does not output a status. Accordingly, claim 14 is in condition for allowance.

In regard to claims 9, 10, 11 and 14, it appears that the Office Action is stating that the communication of the available potential from a source of a resource to a coordinator as described in lines 14-33 of column 4 of the Dominke et al. '669 patent is a request for mode of operation, a confirmation of mode of operation, a request for enablement, a confirmation of enablement and a status. While Applicant submits that the available potential is not any of

these elements, the transmittal of the available potential certainly cannot be all of these elements. Accordingly, Applicant requests in any future Office Action that the Examiner define how the available potential includes all of the elements of claims 9, 10, 11 and 14 and how different portions of the available potential include the different elements of these claims.

Claim 15 defines a method of controlling a vehicle comprising providing the vehicle with a hierarchical control system including an upper hierarchical level and a lower hierarchical level, communicating downward signals from the upper hierarchical level to the lower hierarchical level and communicating upward signals from the lower hierarchical level to the upper hierarchical level. The downward signals include at least one request for vehicle modification. The upward signals include availabilities of the lower hierarchical level independent of the request for vehicle modification. The lower hierarchical level is a suspension coordinator subsystem.

The prior art of record does not disclose or suggest the above noted features of claim 15. Specifically, the prior art of record does not disclose or suggest providing a hierarchical control system including an upper hierarchical level and a lower hierarchical level and communicating upward signals from the lower hierarchical level to the upper hierarchical level, wherein the upward signals include availabilities of the lower hierarchical level independent of a request for vehicle modification and the lower hierarchical level is a suspension coordinator subsystem. According to the Office Action, the Dominke et al. '669 patent discloses a hierarchical control system where upward signals include availabilities of a lower hierarchical level. While claim 15 as originally filed did not state that the lower hierarchical level is a suspension coordinator subsystem, the Examiner has rejected claim 8 by stating that the Dominke et al. '669 patent discloses a suspension coordinator subsystem that sends upward signals including availabilities of the lower hierarchical levels and that such a disclosure is described in lines 14-33 of column 4 of the Dominke et al. '669 patent. According to lines 14-33 of column 4 of the Dominke et al. '669 patent, a coordinator asks the sources of the resource as to an available potential. However, the suspension as identified in Fig. 3 of the Dominke et al. '669 patent is not a source of a resource. Therefore, the "coordinator" as disclosed in the Dominke et al. '669 patent does not receive an upward signal

including availabilities of a "suspension." Therefore, claim 15 is in condition for allowance.

Claim 16 depends from claim 15, and since claim 15 defines unobvious patentable subject matter as discussed above, claim 16 defines patentable subject matter. Furthermore, the Dominke et al. '669 patent does not disclose or suggest upward signals that include availabilities of a mode of operation of a suspension coordinator subsystem. As discussed above, the Dominke et al. '669 patent does not include a suspension coordinator subsystem that communicates availabilities. Accordingly, the Dominke et al. '669 patent does not disclose an upward signal that includes availabilities of a mode of operation of a suspension coordinator subsystem. Accordingly, claim 16 is in condition for allowance.

Claim 17 defines a method of controlling a vehicle comprising providing the vehicle with a hierarchical control system including an upper hierarchical level and a lower hierarchical level, communicating downward signals from the upper hierarchical level to the lower hierarchical level and communicating upward signals from the lower hierarchical level to the upper hierarchical level. The downward signals include at least one request for vehicle modification. The upward signals include availabilities of the lower hierarchical level independent of the request for vehicle modification. The upward signals include availabilities of mode of operation of the lower hierarchical level. The downward signals include a request for mode of operation of the lower hierarchical level. The upward signals include a confirmation of the mode of operation.

The prior art of record does not disclose or suggest the above noted features of claim 17. Specifically, the Dominke et al. '669 patent does not disclose or suggest upward signals that include a confirmation of a mode of operation. According to the Office Action, the Dominke et al. '669 patent discloses this feature in lines 14-33 of column 4. According to this portion of the Dominke et al. '669 patent, a coordinator either asks a component for its resource requirement or receives the resource requirement from the component. Furthermore, the coordinator either asks a source of a resource as to its available potential or the source of the resource sends its available potential to the coordinator. However, whether receiving a resource requirement from a component or an available potential from a source of a resource, neither of these transmittals includes a confirmation of a mode of operation. Accordingly, the

Dominke et al. '669 patent does not disclose or suggest in the portion cited in the Office Action both a downward signal that includes a request for a mode of operation and an upward signal that includes a confirmation of the mode of operation. Accordingly, claim 17 is in condition for allowance.

Claim 18 defines a method of controlling a vehicle comprising providing the vehicle with a hierarchical control system including an upper hierarchical level and a lower hierarchical level, communicating downward signals from the upper hierarchical level to the lower hierarchical level and communicating upward signals from the lower hierarchical level to the upper hierarchical level. The downward signals include at least one request for vehicle modification. The upward signals include availabilities of the lower hierarchical level independent of the request for vehicle modification. The downward signals include a request for enablement and the upward signals include a confirmation of enablement.

The prior art of record does not disclose or suggest the above noted features of claim 18. Specifically, the Dominke et al. '669 patent does not disclose or suggest upward signals that include a confirmation of enablement. According to the Office Action, the Dominke et al. '669 patent discloses this feature in lines 14-33 of column 4. According to this portion of the Dominke et al. '669 patent, a coordinator either asks a component for its resource requirement or receives the resource requirement from the component. Furthermore, the coordinator either asks a source of a resource as to its available potential or the source of the resource sends its available potential to the coordinator. However, whether receiving a resource requirement from a component or an available potential from a source of a resource, neither of these transmittals includes a confirmation of enablement. Accordingly, the Dominke et al. '669 patent does not disclose or suggest in the portion cited in the Office Action both a downward signal that includes a request for enablement and an upward signal that includes a confirmation of enablement. Accordingly, claim 18 is in condition for allowance.

Claim 19 defines a method of controlling a vehicle comprising providing the vehicle with a hierarchical control system including an upper hierarchical level and a lower hierarchical level, communicating downward signals from the upper hierarchical level to the lower hierarchical level, and communicating upward signals from the lower hierarchical level

to the upper hierarchical level. The downward signals include at least one request for vehicle modification. The upward signals include availabilities of the lower hierarchical level independent of the request for vehicle modification. The upward signals include vehicle state measurements of actuators controlled by the lower hierarchical level.

The prior art of record does not disclose or suggest the above noted features of claim 19. Specifically, the prior art of record does not disclose or suggest upward signals that include vehicle state measurements of actuators controlled by the lower hierarchical level as claimed in claim 19. According to the Office Action, the Dominke et al. '669 patent includes an upper hierarchical level 100, lower hierarchical levels 106, 108, 120, 122 and 124, and "signals of vehicle measurements available to both levels (110, 112, 126, 128; fig. 1)." However, the Dominke et al. '669 patent does not disclose or suggest an upper hierarchical level communicating to a lower hierarchical level by sending downward signals that include vehicle state measurements of the vehicle. The master controller 100 in the Dominke et al. '669 patent does not send any signals including vehicle state measurements of the vehicle as set forth in the Office Action because information from elements 110, 112, 126 and 128 do not come from the apparatuses 106, 108, 120, 122 or 124. Accordingly, the Dominke et al. '669 patent does not disclose or suggest upward signals that include vehicle state measurements of actuators controlled by the lower hierarchical level as claimed in claim 19. Accordingly, claim 19 is in condition for allowance.

Claim 20 defines a method of controlling a vehicle comprising providing the vehicle with a hierarchical control system including an upper hierarchical level and a lower hierarchical level, communicating downward signals from the upper hierarchical level to the lower hierarchical level, and communicating upward signals from the lower hierarchical level to the upper hierarchical level. The downward signals include at least one request for vehicle modification. The upward signals include availabilities of the lower hierarchical level independent of the request for vehicle modification. The upward signals include status of the lower hierarchical level independent of the current vehicle behavior.

The prior art of record does not disclose or suggest the above noted features of claim 20. Specifically, the Dominke et al. '669 patent does not disclose or suggest upward signals

that include a status of the lower hierarchical level. According to the Office Action, the Dominke et al. '669 patent discloses this feature in lines 14-33 of column 4. According to this portion of the Dominke et al. '669 patent, a coordinator either asks a component for its resource requirement or receives the resource requirement from the component. Furthermore, the coordinator either asks a source of a resource as to its available potential or the source of the resource sends its available potential to the coordinator. However, whether receiving a resource requirement from a component or an available potential from a source of a resource, neither of these transmittals includes a status of the lower hierarchical level. Accordingly, the Dominke et al. '669 patent does not disclose or suggest in the portion cited in the Office Action an upward signal that includes a status of the lower hierarchical level. Accordingly, claim 20 is in condition for allowance.

In regard to claims 17, 18 and 20, it appears that the Office Action is stating that the communication of the available potential from a source of a resource to a coordinator as described in lines 14-33 of column 4 of the Dominke et al. '669 patent is a request for mode of operation, a confirmation of mode of operation, a request for enablement, a confirmation of enablement and a status. While Applicant submits that the available potential is not any of these elements, the transmittal of the available potential certainly cannot be all of these elements. Accordingly, Applicant requests in any future Office Action that the Examiner define how the available potential includes all of the elements of claims 17, 18 and 20 and how different portions of the available potential include the different elements of these claims.

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All pending claims 1-20 are believed to be in condition for allowance, and a Notice to this effect is therefore earnestly solicited.

Respectfully submitted,

2/2/06
Date

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